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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,930	11/15/2000	Hwa-Chun Lin	EM/LIN/6195	8542

7590 03/16/2004

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EXAMINER
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AFSHAR, KAMRAN

ART UNIT	PAPER NUMBER
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2681

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DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/711,930	Applicant(s) LIN ET AL	
	Examiner Kamran Afshar, 703-305-7373	Art Unit 2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

*Response to Arguments*

1. Applicant's arguments filed 2/18/04 have been fully considered but they are not persuasive.

Applicant argues that Nagarajan does not teach decreasing the probability of hand-off dropping resulting from congestion in cluster-based micro / picocellular wireless networks by admitting new calls only when the double-threshold is met, i.e. when the call exceeds both cluster and cell level channel availability (i.e. channel occupancy threshold) threshold. Applicant contends that Nagarajan does not disclose the cluster level threshold (**i.e. the second channel occupancy channel threshold**). Applicant is respectfully directed to Call admission control for **wireless networks** (See e.g. Title, Abstract), the service area of a PCS (personal communications services) network may be partitioned into a plurality of cells (i.e. cluster, group of base stations and/or plurality of RF transceiver), macrocells, microcells, and/or picocells. A base station, including a processor and **a plurality of RF transceivers (i.e. sector-cells, adjacent and / or neighboring cells), manages channel allocation within each cell** (See e.g. Co. 1, Lines 22-26). Many wireless telephone networks (i.e. PCS) are organized into cells, wherein a respective base station (**or a respective group of base stations**) provides wireless coverage substantially throughout a corresponding cell (i.e. cluster, group of base stations and/or plurality of RF transceiver). As a mobile subscriber unit engaged in an active telephone call moves from **a first cell (i.e. with a first channel occupancy threshold) into a second cell (i.e. with a second channel**

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occupancy threshold), the second cell needs to allocate a channel for (i.e. when the second channel occupancy threshold is less than the first threshold) this telephone call (See e.g. Co. 3, Lines 39-45). Therefore the Examiner holds that the threshold disclosed by Nagarajan facilitates for both cluster and cell level thresholds since it is monitoring the entire network.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagarajan (U.S. Patent 5,884,174).

With respect to claim 1, Nagarajan discloses an admission control method used in cluster-based / organized cells (See e.g. Co. 3, Lines 39-42) micro / picocellular wireless networks for determining whether a new mobile user is admitted to enter a cell upon arriving the cell (See e.g. Co. 3, Lines 43-45), wherein a cluster has a plurality of cells (See e.g. Co. 3, Lines 39-42) and a cell has a plurality of channels (See e.g. Title, Abstract, Co. 1, Lines 22-26), providing a cluster level threshold and cell level threshold; admitting the mobile user to enter the cell if the number of occupied channels in the cluster is less than the cluster level threshold and the number of occupied channels in the cell is less than the cell level threshold; otherwise, refusing the mobile user to enter the cell (See e.g. Co. 2, Lines 10-30, Co. 4, Line 61 – Co. 5, Line 3, 101- 117 of Fig. 1).

Regarding claim 2, Nagarajan discloses the cluster level threshold is equal to or less than the total number of channels in a cluster, and the cell level threshold is equal to or less than the number of channels in a cell (See e.g. Co. 5, Lines 19-50, 201, 203, 223, 225, 227, 229 of Fig. 2).

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Regarding claim 3, Nagarajan discloses the cell level threshold is at least one and the cluster level threshold is at least the number of cells in the cluster (See e.g. Co. 5, Lines 19-50, 201, 203, 223, 225, 227, 229 of Fig. 2).

Regarding claim 4, Nagarajan discloses the cluster level threshold and the cell level threshold are selected in such a manner that combinations of the cluster and cell level thresholds that can guarantee a predetermined call hand-off dropping probability under any load condition are first found, and then, a particular combination of cluster and cell level thresholds that results in a maximum throughput of the network among the combinations which satisfy a bound on call hand-off dropping probability is found (See e.g. Co. 7, Lines 30-50).

Regarding claim 5, Nagarajan discloses the cluster level threshold is used to reduce the probability that a cluster becomes congested under heavy load (See e.g. Co. 4, Lines 47-60).

Regarding claim 6, Nagarajan discloses the cell level threshold is used to reduce the probability of localized congestion in a cell (See e.g. Co. 4, Lines 47-60).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (703) 305-7373. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, Gary, Erika A. can be reached @ (703) 308-0123. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all communications.

Kamran Afshar

3/15/2004

  
ERIKA GARY  
PATENT EXAMINER